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PERSONAL CONTROL AT WORK: ITS CONCEPTUALIZATION AND MEASUREMENT--ETC(U)

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PERSONAL CONTROL AT WORK:
ITS CONCEPTUALIZATION AND MEASUREMENT

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Abstract

Numerous psychological researchers have proposed personal control over a variety of factors as an important variable in understanding human behavior, but the construct has been largely neglected by organizational psychologists. This paper discusses the construct personal control over work-related factors and the development of a means for measuring control over work-related factors. Two dimensions of control were found, one measuring the degree of control desired at work and the other measuring the degree of control possessed at work. These dimensions were observed to be very different from the locus of control construct. Analysis of the data indicate that the difference between control desired and control possessed may be an important mediating factor in job satisfaction. The use of control in redesigning jobs was discussed.

Personal Control at Work: Its Conceptualization and Measurement

The concept of personal control (over environmental and personal dimensions) recently has received much attention in the psychological literature (see e.g., Baum & Singer, 1980; Perlmutter & Monty, 1979). This construct has been studied by researchers who have come from a variety of fields of psychology and have used different methods to study the phenomenon. White's (1959) early theoretical work frequently has been cited as a base for work on control. He proposed that persons have an "innate need to manipulate the environment" (p. 318) which he labeled the "effectance motivation".

Recent experimental studies have examined aspects of control, with each author using different terminology to describe a conceptually similar phenomenon. Whether they label personal control as reactance (Brehm, 1966), learned helplessness (Seligman, 1975), perceived freedom (Steiner, 1970), or efficacy (Bandura, 1978), the studies all support the proposition that persons typically desire a belief in their personal control over their environment, and that when they perceive themselves as not having this control, they are in less than an optimal state of mental health.

It should be clarified that personal control is not identical with locus of control (see Rotter, 1966). Rotter hypothesized that persons generalize across situations concerning their control. The Internal-External Locus of Control Scale has been developed as a consistent

measure of individual differences, reflecting attributions persons make of their internal or external control over reinforcements. The questions on the scale ask persons to indicate whether they believe factors like fate or personal effort contribute most to outcomes across a number of social situations. According to the locus of control literature, those holding a belief in internal control perceive events around them as arising from their own actions, while those high on the external end of the scale perceive events as resulting from luck, fate, or actions of others.

Personal control, although similar conceptually, describes a more situationally specific set of beliefs. Because personal control is based more upon environmental cues than is locus of control, an individual possesses differing amounts of control over events at home, over social situations, or over work. Further, even for a given environment, perceptions of control may change from one moment to the next. Personal control, then, may be defined as an individual's actual or perceived ability to affect a specific state of an environment.

Consistency in personal control over time and across situations undoubtedly affects an individual's internality or externality on the Locus of Control Scale. At a given point in time, though, persons are likely to have generalized expectations of reinforcement but, in addition, seemingly contradictory personal control perceptions focused over a vast range of environmental situations.

In the organizational behavior literature, use of the term control has tended to be restricted to research which treats the locus of control construct as an intervening variable. The various results reported by

the researchers are inconsistent (e.g., Organ & Greene, 1974; Szilagyi, Sims, & Keller, 1976), as are the results reported by researchers who work in other areas of psychology.

The concept of personal (or perceived) control in organizations has largely been ignored as a meaningful construct at the individual level. This omission is puzzling in view of the importance of control in organizations; indeed, control may be one of the most salient characteristics of organizations. Roles in organizations frequently are defined in terms of control. For example, managerial positions are described by the number of persons over whom the manager exercises control and by the extent of that control. Job characteristics such as autonomy and feedback (Hackman & Oldham, 1975; Sims, Szilagyi, & Keller, 1976) may be viewed as important determinants of control.

In the present paper, personal control is conceptualized as an important mediator of perceptions and behavior in organizational settings. The relationship between control and job characteristics and job satisfaction is described in Figure 1. Note that two distinct dimensions of

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 Insert Figure 1 here.
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personal control are described. The first is personal control "possessed" in the organization. It is hypothesized that this dimension is based to some extent upon the characteristics of the individual's job relative to those of important comparison groups. This dimension of control represents the degree to which a person believes he or she is able to manipulate, to alter, to influence, or to affect changes at work. That is, it represents the extent to which a person is able to control his

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or her own job and those of others, as well as the extent to which that person's job is controlled by others. The second dimension of control is the degree to which control at work is desired. All persons do not strive for the same degree of control. Some persons are desirous of obtaining power, influence, and control and are disappointed with less. Others may want a very small amount of control at work, perhaps because they feel overburdened with control in their personal, nonwork lives. Therefore, the degree to which control is desired is influenced by the job, external situations, and general expectations.

The essence of the model presented in this paper is that an individual's job satisfaction is related to the differences between control desired and control possessed. The literature indicates that states of control possessed which are less than desired should be undesirable and unstable. When persons feel lowered control, they are unhappy and attempt to achieve states of increased control. Accordingly, a dynamic theory of control at work is hypothesized, in which persons manifest high levels of job satisfaction when they possess an equal (or greater) amount of control than they desire. Dissatisfaction is expected when more control is desired than is possessed.

Prior to this study, no instrument was available to measure a person's control at work. The present study entails the development of two distinct scales--one measuring control possessed and the other measuring control desired. In addition, preliminary relationships between these control dimensions and a number of other variables are examined in a nomological network.

Method

Sample

Data were collected from clerical employees representing 35 different jobs at a Midwestern insurance company. All were permanently employed and had responsibilities such as typing, entering data into computer terminals, using rate books to derive premiums, or filing records. The data were collected by means of a questionnaire, completed during normal working hours over a three-day period. A total of 260 employees (all female) voluntarily participated in the research. The questionnaire respondents represent over 95 percent of the total eligible employees. Most of the nonparticipants were on vacation at the time of sampling.

Control Questions

Thirty-three questions were developed by the author to ask employees about their control. The questions were gone over and modified by colleagues and by pretesting. Subjects were questioned about their control over their own tasks and other aspects of their work, over others' jobs and group decisions, and over their lives outside of work in general. Most questions were written in pairs. Employees were first asked how much control they had over a given aspect of the job and, second, how much control they would like over the same aspect. The responses were made on a 1 to 5 point scale with each point anchored; these anchors ranged from very little to very much, respectively.

Instrument

The questionnaire consisted of 260 items. Most items were taken from existing scales or scales under development. Of interest in the present study, the questionnaire included items taken from the Job

Diagnostic Survey (Hackman & Oldham, 1975), the Job Characteristics Inventory (Sims, Szilagyi, & Keller, 1976), and the Index of Organizational Reactions (Dunham, Smith, & Blackburn, 1977), and the Locus of Control Scale (Rotter, 1964), as well as the 33 new control questions. Most of the employees completed the entire questionnaire in less than one hour.

Analyses

As the first stage in the analysis, factor analysis was utilized on the control items to determine the number of significant factors. Two criteria were used: the eigenvalue patterns and interpretability. A principle components analysis with a Varimax rotation was utilized to determine the item loadings on the significant dimensions. Finally, to examine control vis-à-vis other job-related issues, zero-order and first-order correlations were calculated.

Results

The dual criteria of eigenvalues and interpretability indicated that there were two important dimensions. Factor loadings of questions on the two dimensions are presented in Table 1. The data indicate that 12 items loaded on the first factor and 8 items loaded on the second factor. Examination of the content of the questions of these two groups supported the a priori prediction of a dimension of control possessed and a dimension of control desired, respectively. The items loading highly on each factor were summed using unit weights to form scale scores.¹

- - - - -
Insert Table 1 here.
- - - - -

Recall that an important distinction was made between the Locus of Control Scale and the two dimensions of personal control proposed here. It should be expected, therefore, that the correlation between the Locus of Control Scale and control possessed and control desired should be quite low. A modified, unidimensional form of the Locus of Control Scale (taking into account the multidimensionality outlined by numerous authors) was utilized. The resulting correlations between locus of control and control possessed and control desired were both nonsignificant, indicating that there is little relation between locus of control and the new personal control scales.

Finally, it was hypothesized that control is an important determinant of job satisfaction and that perceptions of control are based in part upon job characteristics. A preliminary analysis was performed which utilized the difference score of control (desired less possessed). First, zero-order correlations were performed between measures of job characteristics and the various measures of satisfaction. Then first-order, part correlations were performed, this time holding control constant.

- - - - -
Insert Table 2 here.
- - - - -

It can be seen in Table 2 that reductions in all cases were found in the magnitude of the correlations demonstrating the intervening role of control in the job characteristics-satisfaction relationships.

Discussion

The results indicate that two meaningful dimensions of personal control have been developed. The factor analysis of the data support

the a priori notion that there exist two dimensions of control at work. The first dimension, labeled control possessed over work, measures the extent to which persons believe they have control over their jobs and the jobs of others. The second dimension, control desired over work, measures the extent to which persons would like control over their jobs and the jobs of others. These dimensions measure something very different from that which is measured by the locus of control scale. Finally, it appears that the concept of control may be an important determinant of job satisfaction.

The data obtained are particularly noteworthy in view of the sample utilized. Examination of the means for the two control dimensions indicates that these subjects consistently correctly perceived themselves as having little control. Further, employees desired only a consistently small amount of more control than they had already. The sample acted to suppress the range of the difference score and to decrease the variance. A sample with more widespread impact and control would be likely to provide a different perspective. Ongoing research is pursuing this issue.

Finally, the concept of personal control provides an important link in understanding how jobs affect satisfaction and other behaviors in organizations. The theory, as indicated, has motivational roots. An intriguing question is whether all persons seek a simple balance of possessed control with desired or whether persons always desire more than they possess. If the latter is the case, the relation might be curvilinear, implying that the more control someone has, the more they desire. This has important implications for job design and employee welfare.

References

- Bandura, A. Self efficacy: Toward a unifying theory of behavioral change. Psychological Review, 1977, 54, 191-215.
- Baum, A., & Singer, J. Advances in environmental psychology (Vol. II), Hillsdale, N.J.: Erlbaum, 1980.
- Brehm, J. A theory of psychological reactance. New York: Academic Press, 1966.
- Dunham, R. B., Smith, F. J., & Blackburn, R. S. Validation of the index of organizational reactions with the JDI, the MSQ, and faces scale. Academy of Management Journal, 1977, 20, 420-432.
- Hackman, J. R., & Oldham, G. R. Development of the job diagnostic survey. Journal of Applied Psychology, 1975, 16, 250-279.
- Organ, D. W., & Greene, C. N. Role ambiguity, locus of control, and work satisfaction. Journal of Applied Psychology, 1974, 59, 101-102.
- Perlmutter, L. C., & Monty, R. A. Choice and perceived control. Hillsdale, N.J.: Erlbaum, 1979.
- Rotter, J. B. Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 1966, 80 (1, Whole No. 609).
- Seligman, M. E. P. Helplessness: On depression, development, and death. San Francisco: Freeman, 1975.
- Sims, H. P., Szilagyi, A. P., & Keller, R. T. The measurement of job characteristics. Academy of Management Journal, 1976, 19, 195-212.
- Steiner, I. D. Perceived freedom. In L. Berkowitz (Ed.), Advances in Experimental Social Psychology (Vol. V). New York: Academic Press, 1970.

Szilagyi, A. D., Sims, H. P., & Keller, R. T. Role dynamics, locus of control, and employee attitudes and behavior. Academy of Management Journal, 1976, 19, 259-276.

White, R. W. Motivation reconsidered: The concept of competence. Psychological Review, 1959, 66, 297-333.

Footnotes

¹When the difference measure was computed between the two scales, a conversion was used because of the different number of items on each scale.

Table 1
Factor Loadings for Abbreviated Control Questions

Abbreviated Question	Factor 1	Factor 2
1. Control have over variety of tasks	.645	.010
2. Control would like over variety of tasks	.315	.398
3. Control have over order of performance	.611	-.013
4. Control would like over order of performance	.394	.313
5. Control have over how perform tasks	.472	-.174
6. Control would like over how perform tasks	.162	.262
7. Control have over amount of work	.483	.012
8. Control would like over amount of work	.290	.241
9. Control have over quality	.319	.008
10. Control would like over quality	.198	.133
11. Control have over decorations	.481	-.108
12. Control would like over decorations	.307	.162
13. Control have over pay received	.298	-.135
14. Control would like over pay received	.115	.413
15. Control have over unit's tasks	.637	.257
16. Control would like over unit's tasks	.193	.672
17. Control have over when unit performs	.593	.249
18. Control would like over when unit performs	.205	.696
19. Control have over unit's performance standards	.463	.163
20. Control would like over unit's performance standards	-.051	.743
21. Control have over unit's training	.645	.262
22. Control would like over unit's training	.205	.646
23. Control have over setting of unit's policy	.612	.186
24. Control would like over setting of unit's policy	.034	.700
25. Control have over arrangement of unit's desks	.461	.129
26. Control would like over arrangement of unit's desks	.115	.560
27. Control have in general over work factors	.761	.221
28. Control would like in general over work factors	.164	.781
29. Control have over things outside work	.047	.230
30. Control would like over things outside work	.007	.332
31. Work interferes with control outside work	-.110	.151
32. Things outside work interfere with control at work	-.047	.190
33. Control expected when started work	-.017	.364

Table 2
Correlations Between Job Characteristics and Job Satisfaction^a

	Task Identity	Interpersonal Activities	Feedback	Variety	Significance
<u>SATISFACTION:</u>					
Employee Financial	.18	.04	.32	.29	.24
Welfare	(.09)	(.02)	(.24)	(.16)	(.22)
Work Unit	.21	.19	.46	.26	.19
Supervision	(.14)	(.11)	(.36)	(.10)	(.16)
Kind of Work	.38	.17	.43	.56	.46
	(.31)	(.08)	(.32)	(.43)	(.43)
Physical Work	.07	.19	.16	.14	.09
Conditions	(.04)	(.16)	(.12)	(.08)	(.08)
Co-workers	.14	.24	.33	.20	.21
	(.08)	(.18)	(.26)	(.08)	(.18)
Amount of	.33	.19	.32	.30	.25
Work	(.27)	(.12)	(.23)	(.17)	(.22)

^aPart correlations in parenthesis.

(N = 260)

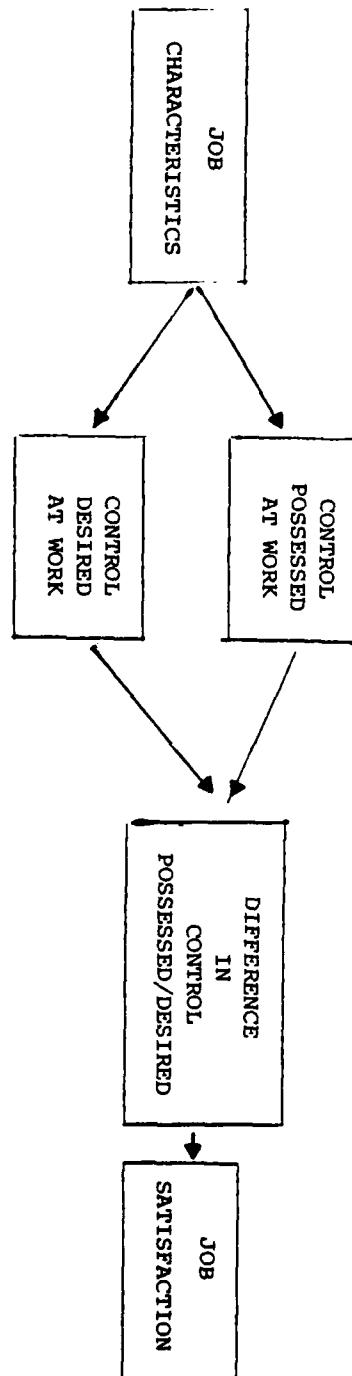


Figure 1

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